



Achieving California's Land Use and Transportation Greenhouse Gas Emission Targets Under AB 32: An Exploration of Potential Policy Processes and Mechanisms

WHY WAS THIS RESEARCH UNDERTAKEN?

Climate change is rapidly becoming known as a tangible issue that must be addressed to avoid major environmental consequences in the future. Transportation is a major contributor of carbon dioxide (CO₂) and other greenhouse gas emissions from human activity, accounting for approximately 14 percent of total anthropogenic emissions globally and about 27 percent in the U.S. Fortunately, transportation technologies and strategies are emerging that can help to meet the climate challenge. This project was conducted to assist Caltrans in its efforts to address the mandates put forth by California's landmark Climate Change legislation, AB 32. Note: a supplemental report (1652A) titled, "Model-based Performance Measures for Livable Communities: A Comparative Framework and Literature Synthesis" was also completed, which addresses the need for stronger connectivity between performance measures and land use/transportation modeling. The analysis in this report reflects the vision found in the associated SB 375 legislation which deals with changes in land use and need for more sustainable communities that will be necessary to achieve the long-term goals of reduced greenhouse gas emissions.

WHAT WAS DONE?

This research included a literature review, expert interviews, and five regional stakeholder workshops to identify and explore possible policy processes (e.g., cap and trade, budgets, feebates), mechanisms (e.g., smart growth and ITS), and potential compliance strategies. Between February and July 2008, researchers completed 15, two-hour (on average) expert interviews with 24 participants who represented various perspectives on the problems and solutions for meeting the emission reduction targets mandated by AB 32 and Executive Order S-3-05. Researchers also conducted five regional one-day AB 32 workshops on the land use and transportation connection. The five regions included: Oakland/Bay Area, Sacramento, San Diego, Los Angeles, and Fresno/San Joaquin Valley. Between seven and 15 individuals participated in each of the workshops. Participants represented a range of stakeholder groups, including state and local transportation agencies, local government, elected officials, builders and developers, regional agencies, environmental advocates, and business groups. Experts were interviewed from a range of

stakeholder groups, including state and local transportation agencies, local government, elected officials, builders and developers, regional agencies, environmental advocates, and business groups. Most experts were from California and had over 20 years experience in their field.

RESULT OF THE RESEARCH?

Researchers collected recommendations from Stakeholder group expert interviews and from participants in the five regional workshops which were held across the state. These interactions and discussions resulted in recommendations (by topic area) of how best to implement programs to further the goals of AB32.

WHAT DO THE RESEARCHERS RECOMMEND?

For this study, the participants provided the recommendations for implementing strategies to comply with the AB 32 mandate. The key recommendation of the expert interviews was the analysis of policy approaches (voluntary,

regulatory, market-based) that would have the greatest potential to reduce greenhouse gas (GHG) emissions. The majority endorsed a mix of voluntary, regulatory, and market-based approaches. A mixed voluntary and market-based approach was considered best for personal behavioral change and compliance with land use 52 policies and targets. Regulatory approaches were coupled with voluntary or market-based approaches.

The most significant outcome from the five regional workshops is the general consensus across the regions and stakeholder groups regarding the long-term effectiveness of changing land use patterns from the dominant 20th century pattern of single use, automobile dependent development (more sprawling) towards a new paradigm for the 21st century. This new paradigm reflects denser, smaller-sized homes; supports more walkable development forms; mixed residential, commercial, and retail land uses; “clean” jobs; and public transit and other modes that are convenient and accessible. The co-benefits of this approach are perceived across regions and stakeholder groups as being notable in promoting individual health and general environmental sustainability.

Pricing strategies also are viewed across the region as critical success factors. Pricing should be used to send economic signals that discourage use of single occupant gasoline powered vehicles and encourage public transit and low/non-emitting alternatives, including bicycling and walking.

Behavioral change, which included public education campaigns to promote and encourage individuals towards making low carbon choices, was viewed by most panelists as “good” or “right,” with one exception (i.e., in San Diego many panelists considered the public ready to make the right choice immediately). This was the third most effective strategy across the State. All regions believed these messages needed to personalize the problem of climate change for each region and to focus on encouraging individuals to make specific choices that were

available. All panels recommended close coordination between public campaign messages and the availability of low carbon options. Many recommended use of highly professional marketing strategies, making use of California’s home grown entertainment industry to make low carbon lifestyles trendy.

ITS and mobility management were considered by most as lower profile but still effective strategies that should be implemented and supported for their real, although marginal, impacts.

A constant theme of all discussions on reduction strategies involved the need for strong clear messages and assistance, including technical and financial assistance to local governments and implementing agencies. Many specific strategies were suggested, including more effective land use planning and zoning assistance from the State and statewide pricing guidelines or regulations to ensure consistency of approach across the regions. At the same time, all regions wanted to 85 customize and target their approaches, particularly with regards to public marketing and education campaigns.

IMPLEMENTATION STRATEGIES

Panelists in all five sessions agreed that over the long haul (20 to 30 years) GHG reductions will be achieved in part due to denser, more walkable, less automobile-oriented land use patterns that are supported by more public transit (bus, rail) and embrace reasonable mixes of residential, commercial, and retail and “clean” work environments. These changes in land use patterns will have many health and environmental co-benefits that are of value to California residents. All panels also displayed a strong consensus that the effectiveness of land use changes, carried out by changes in local planning and zoning and building codes, would take time to implement. However, change would become easier over time as political pressure for change developed. Many saw generational change as key. All believed that change should begin now. There was no significant difference in opinion across stakeholder groups.

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